

Work Order ID 80608

Thursday, February 23, 2012 2:56:39 PM

80608

Ship March 15
Page 1

Item ID: D350-636-016

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 2/24/2012 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 3/14/2012 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: *MVF*

Date: 12-02-23 Tooling:

Date:

Run Start *NR1*

QC:

Date: SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set-Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3492

C

D4168

A

IIN-D350-636

I

100

0.00

100

DC

DOCUMENT CONTROL *01*

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-016 CHG 002

8/26/14

MLJ 12/03/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Required Date: 3/14/2012 Req'd Qty: 1.00

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00

110

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section R-R

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R

5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168 Detail J

6- Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail K.
SECOND SIDE

8-Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

9-Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201 iplace per side and open holes of detail M section R-R to 0.500" as per dwg D4168

10-Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: M 120164BE 12/03/06BB 12/03/06

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Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

11-Grind welds flush as per Dwg D4168

120

QC10- Inspect visual per QS1004- ground welds

0.00

120

QC

Memo

0.00

Quality Control

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.00

Hand Finishing

1 8 GF 12-3-5

150

QC3- Inspect Part Finish

0.00

150

QC

Memo

0.00

Quality Control

1 8 BE 12-03-05

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR: Yes No** **DQA:** _____ **Date:** _____
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Approvals: Process Plan: Date:

Tooling: Date:

Run Start ***NR1***

QC: Date:

SPC (Y/N): Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00

160

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side)
as per dwg D4168.2-Open up holes of Detail K to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168
(welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI015

A/R Sikaflex-291

batch: 119999

exp. date: 12-08-13

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004
(welding instructions on sheet 8)

A/R Aluminum Rod

batch: m120164

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D4168

- De 12/03/09

BB 12/03/06 7/6

JBE 12/03/08

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Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp11-Spot face ground handling holes section (total of 4 places per side) as-per
dwg D4168

12- C'bore section CH-CH

13- Deburr holes

***** FOR DELUXE SKIDTUBE IF APPLICABLE DRILL TO
HOLE IN TUBE *****

170

170

QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

S1210710

180

180

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

S1210310

Handwritten notes and signatures:

- A large handwritten "N/A" with a checkmark.
- A handwritten signature "JP" followed by "12-3-10".
- A circular stamp on the right side of the page.

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Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan Accept Reject Reject Insp.
Code Qty Qty Number Stamp

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1XPM-12/03/12

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Memo

0.00

Powder Coating

START TIME: *8h45*OVEN TEMPERATURE: *320°F*FINISH TIME: *9h15**m20 222**1 2 DP 12/03/13*

210

QC3- Inspect Part Finish

0.00

210

QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

1 BR 12-3-13

W/O:		WORK ORDER CHANGES					
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Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:		Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

220

220

HandFinish

Hand Finishing

HandFinishing

Memo

1- Install inserts as per Dwg D4168

0.00

0.00

1 BL 123-B.

230

230

HandFinish

Hand Finishing

HandFinishing

Memo

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: N/A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168

SIKA FLEX 241

BATCH: 119 944EXP DATE: 12-8

0.00

0.00

1 BL 123-B.

4-assemble o'ring to plug as per dwg D3493 and apply o'ring lube

A/R 55-o'ring lube batch: 1103485-Coat all exposed fasteners with "LPS Procyon" batch: 14.546

W/O:		WORK ORDER CHANGES					
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Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

240

QC5- Inspect part completeness to step on W/O

0.00

240

QC

Memo

0.00

Quality Control

8/2/03/13

250

Pick Kit

0.00

250

Packaging

Memo

0.00

Packaging

If making a D350-636-216
pick kit will only requires:
1 X AN3C37A
1 X AN3C34A
1 X AN3C42A
2 X D3493-I

6/12/3/14

@

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.00

Quality Control

*****ensure antiseize is on AN8C21A bolts*****

8/2/03/14

(40)

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Approvals: Process Plan: Date:

Tooling: Date:

Run Start ***NR1***

QC: Date:

SPC (Y/N): Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

270

0.00

270

Packaging

Packaging

Memo

0.00

Identify and pack for shipping as per PPPD350-636-016

Location: _____
PPP rev: A

280

0.00

280

QC

Memo

0.00

Quality Control

QC21- Final Inspection - Work Order Release

12/3/14
MCT 12/03/14

12-03-14

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Picklist Print

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Work Order ID: 80608

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD verf:EC IPP Rev:B 11.04.14 ecn11-553
DD verf:EC IPP Rev:C 11.10.18 as per NCR 11-906 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN3C34A BOLT		Purchased	No			230	Each	52.0000	1	1		BL 12-3-13.	
-----------------	--	-----------	----	--	--	-----	------	---------	---	---	--	-------------	--

Location	Loc Qty	Loc Code
ST353	52	
116075	32	
117514	20	

AN3C36A BOLT		Purchased	No			230	Each	161.0000	4	4		BL 12-3-13.	
-----------------	--	-----------	----	--	--	-----	------	----------	---	---	--	-------------	--

Location	Loc Qty	Loc Code
FG	4	
101261	4	
ST353	157	
116590	0	
119083	2	
119324	92	
119530	1	
120446	22	
120641	40	

AN3C37A BOLT		Purchased	No			230	Each	224.0000	1	1		2/23/14	
-----------------	--	-----------	----	--	--	-----	------	----------	---	---	--	---------	--

Location	Loc Qty	Loc Code
ST354	224	
116874	11	
117010	2	
118709	50	
119324	25	
119531	11	
120308	25	
120422	50	
120731	50	

120422

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Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

5 AN3C42A Purchased No 230 Each 53.0000 1 1

BOLT

Location	Loc Qty	Loc Code
ST354	53	
106176	1	
118131	2	
119673	25	
120464	25	

11/8/31

D3488-042

Manufactured No

Blade Fitting Assembly, RH

230 Each 20.0000 1 1

Location	Loc Qty	Loc Code
FP002	20	
62003	1	
71883	1	
75068	9	
77015	9	

BR123-B

D3490-1

Manufactured No

Cross Bolt Spacer

160 Each 57.0000 4 4

Location	Loc Qty	Loc Code
LG001	57	
62450	2	
74875	4	
77042	8	
78793	43	

BE12/03/08

D3490-3

Manufactured No

Cross Bolt Spacer

160 Each 46.0000 4 4

Location	Loc Qty	Loc Code
LG001	46	
77567	6	
78800	40	

BE12/03/08

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Shop Packet Print

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Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-1
Plug

Manufactured No

230 Each 138.0000 8 8

BL 12-3-13.

Location	Loc Qty	Loc Code
FP002	138	
69531	8	
74444	2	
76235 ✓	28	8.
77037	100	

D3492-3
Plug

Manufactured No

230 Each 77.0000 8 8

BL 12-3-13.

Location	Loc Qty	Loc Code
FP002	1	
77039 ✓	1	1
FP-A	76	
78600 ✓	76	7.

D3873-1
Bushing

Manufactured No

230 Each 241.0000 7 7

BL 12-3-13.

Location	Loc Qty	Loc Code
ST067	241	
64760	1	
68247	4	
73829	19	
73830	2	
79560 ✓	215	7.

D4154-041
Wearplate Assembly

Manufactured No

230 Each 3.0000 1 1

BL 12-3-13.

Location	Loc Qty	Loc Code
FP001	3	
77007 ✓	3	1

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 4

Work Order ID: 80608

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

D4170-1
Bushing

Manufactured No

230 Each 21.0000 4 4

BE 12/03/08

Location Loc Qty Loc Code

LG001 21
71844 5
76677 16

D4171-1
Bushing

Manufactured No

230 Each 11.0000 1 1

M 12/03/08

Location Loc Qty Loc Code

ST135 11
77008 11

MS21043-3
Nut

Purchased No

230 Each 1,273.0000 4 4

BR 12-3-B

Location Loc Qty Loc Code

FG 72
103691 72
GA 400
120693 400
ST300 308
119901 308
ST301 493
118077 2
118614 441
118686 30
119758 20

NAS1149C0363R
Washer

Purchased No

230 Each 3,520.0000 9 9

BR 12-3-B

Location Loc Qty Loc Code

ST297 3520
114742 3520

9

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 80608

Parent Item: D350-636-016

Start Date: 2/24/2012

Required Date: 3/14/2012

Parent Item Name: Skidtube STD w/ Training Wearplates. RH

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0863J

Purchased No

250

Each

231.0000

2

2

WASHER

Location

Loc Qty

Loc Code

ST298

231

118078

36

119307

95

120308

100

NAS1515H3L

Purchased No

230

Each

220.0000

4

4

WASHER

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

180

118686

3

119438

1

120072

76

120360

100

NAS1611-010

Purchased No

230

Each

167.0000

8

8

O-RING

Location

Loc Qty

Loc Code

FP

50

110915

0

120770

50

FP001

117

110915

14

117460

8

118077

1

118612

3

119438

47

120308

44

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Page 6

Work Order ID: 80608

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-013

Purchased

No

230

Each

126.0000

8

8

O-RING

BE 12-3-13.

Location

Loc Qty

Loc Code

FP001

126

116582

5

117291

2

117887

53

119623

36

120360

30

8.

D2744

Manufactured

No

110

Each

62.0000

1

1

Cap

BE 12/03/01

Location

Loc Qty

Loc Code

LG002

62

62715

1

70881

12

71861

7

78900

42

1

1

D2600-3-BENT

Manufactured

No

110

Each

17.0000

1

1

Extrusion Bent

1

BE 12/03/06

Location

Loc Qty

Loc Code

LG

17

66875

7

73253

1

75021

1

75022

1

75023

1

77623

1

79497

5

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Page 7

Work Order ID: 80608

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

D2743 Manufactured No
Crossbolt Spacer

160 Each 164.0000 8 8

BE 12/03/08

Location	Loc Qty	Loc Code
LG001	164	
67766	4	
68251	3	
73403	64	
74445	1	
78603	92	

D2739 Manufactured No
350 I Beam

160 Each 1.0000 1 1

Location	Loc Qty	Loc Code
LG	1	
72155	1	

1 3/16 12-3-6

ALS4-1032-225 Purchased No
Insert

230 Each 1,286.0000 4 4

BR 12-3-B

Location	Loc Qty	Loc Code
ST281	1031	
108696	146	
110768	62	
118386	55	
118966	68	
120671	700	
ST282	255	
120410 ✓	150	
120451	105	

H.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

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Page 8

Work Order ID: 80608

Parent Item: D350-636-016

Start Date: 2/24/2012

Required Date: 3/14/2012

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Qty: 1.00

Required Qty: 1.00

AN8C35A Purchased No

230 Each 66.0000 1 1

BL 12-3-13.

Location	Loc Qty	Loc Code
FP002	65	
115960	1	
117834	10	
118286 ✓	54	<i>1</i>
ST346	1	
114442	0	
115188	0	
115960	1	

AN6C44A Purchased No

230 Each 98.0000 4 4

BL 12-3-13.

Location	Loc Qty	Loc Code
FG <i>126095.</i>	2	<i>4.</i>
103964	2	
ST343	96	
120095	16	
120143	25	
120465	27	
120641	28	

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 9

Work Order ID: 80608

Parent Item: D350-636-016

Start Date: 2/24/2012

Required Date: 3/14/2012

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Qty: 1.00

Required Qty: 1.00

MS21083C8 Purchased No

230 Each 67.0000 1 1

BL 12-3-13.

Location	Loc Qty	Loc Code
FP002	1	
115884	1	
ST303	15	
115884	0	
118077	1	
119309	2	
119436 ✓	10	1
119638	2	
ST304	51	
120142	26	
120731	25	

D3631-1 Manufactured No

230 Each 223.0000 8 8

BL 12-3-13.

Location	Loc Qty	Loc Code
ST072	223	
68062	2	
75548 ✓	221	8.

AN960C10L washer * NAS1149C0332R ✓ Purchased No

230 Each 0.0000 4 4

4. BL 12-3-13.

D2745 Bushing Manufactured No

230 Each 48.0000 8 8

BL 12-3-13.

Location	Loc Qty	Loc Code
FP001	48	
69529	1	
76142	1	
78597 ✓	46	8.

NAS1149C0832R WASHER Purchased No

230 Each 305.0000 1 1

BL 12-3-13.

Location	Loc Qty	Loc Code
ST297	305	
114915 ✓	305	1

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 10

Work Order ID: 80608

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates. RH

Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C6A Purchased No

230 Each 692.0000 4 4

BL 12-3-13.

Location	Loc Qty	Loc Code
FP001	1	
111982	1	
ST351	691	
111982	2	
116419	23	
116549	2	
116704	12	
117619	10	
117688	1	
117872	5	
118422	13	
119449	21	
120423 ✓	202	4.
120693	400	

MS21043-6 Purchased No

230 Each 817.0000 4 4

BL 12-3-13.

Location	Loc Qty	Loc Code
FG	20	
103693	20	
ST301	797	
112314 ✓	87	4.
117887	10	
118384	200	
120308	500	

Manufactured No

250 Each 26.0000 2 2

12/3/14

D3493-1 Washer

Location	Loc Qty	Loc Code
ST050	26	
70697	2	
77573	24	77573

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Page 11

Work Order ID: 80608

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 2/24/2012

Required Date: 3/14/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased No

250 Each 67.0000 2 2

NUT

Location	Loc Qty	Loc Code
FP002	1	
115884	1	
ST303	15	
115884	0	
118077	1	
119309	2	
119436	10	
119638	2	
ST304	51	
120142	26	
120731	25	

120142

AN8C21A

Purchased No

250 Each 47.0000 2 2

BOLT

Location	Loc Qty	Loc Code
ST343	47	
118758	5	
120094	42	

120094

D2741

Manufactured No

250 Each 38.0000 1 1

Blade, 350 Skidtube

Location	Loc Qty	Loc Code
ST	-10	
ST466	48	
71856	1	
76984	37	

76984

50

12/3/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

#80608

RELEASED
2010-09-15

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 11) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

A	NEW ISSUE	SC	10.08.09
REV	DESCRIPTION	BY	DATE
DESIGN	SC		
DRAWN	SC		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.08.09		
DART AEROSPACE USA, INC.		REV. A	
PORT HADLOCK, WA		SHEET 1 OF 11	
DRAWING NO. D4168		SCALE NTS	
TITLE 350 SKIDTUBE ASSEMBLY		NTS	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

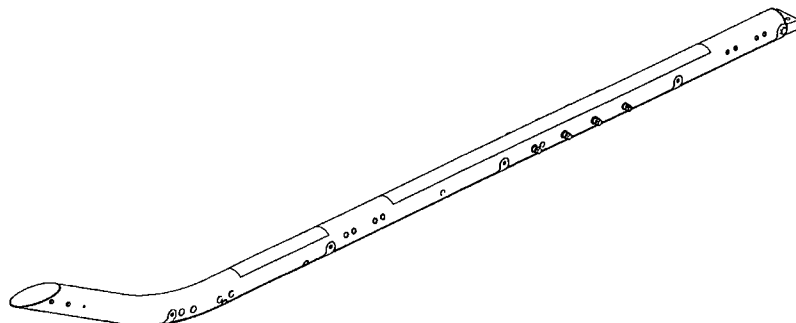
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

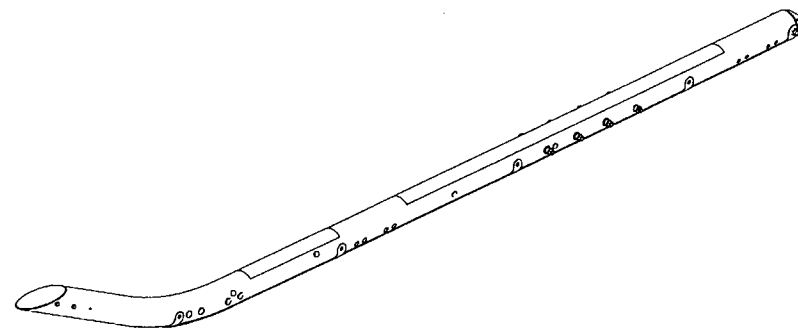
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

80608



D4168-041 350 SKIDTUBE ASSEMBLY, LH



D4168-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2010-09-15
JW

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 2 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

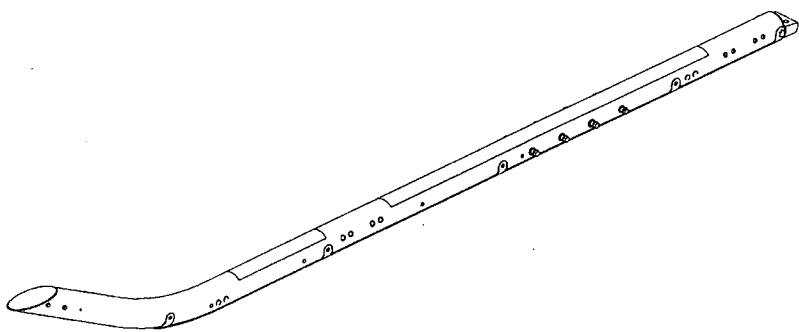
Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

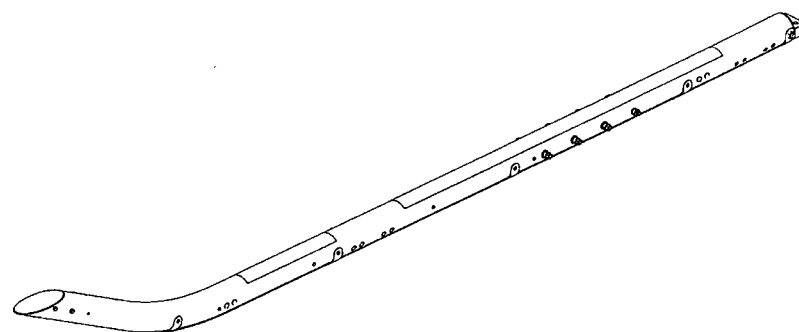
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 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

80608

RELEASED
2010-09-15

DESIGN	SC	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 3 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

Dart Aerospace Ltd

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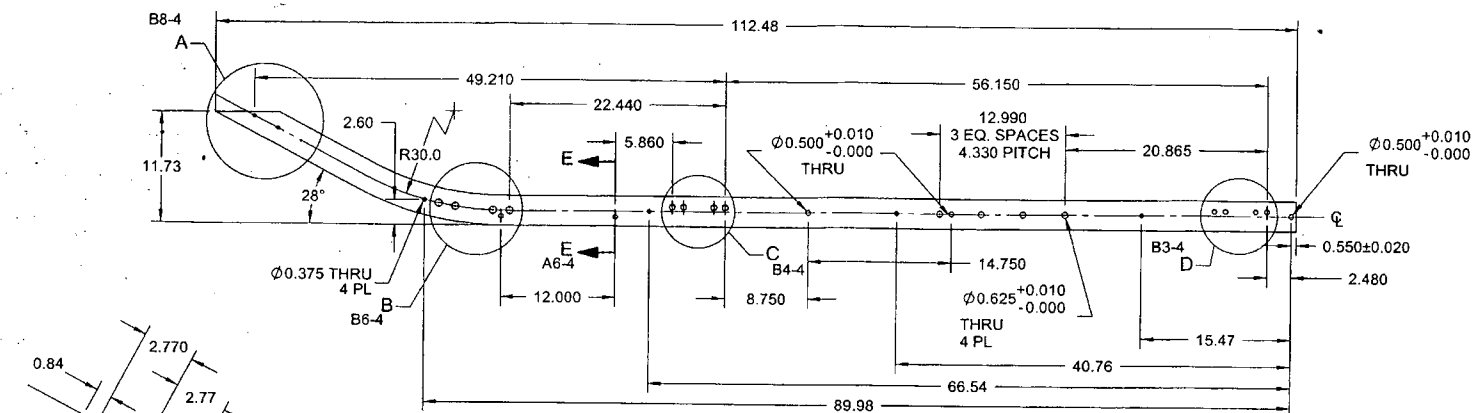
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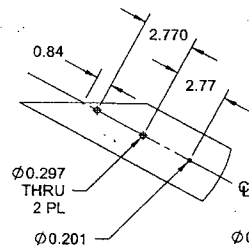
NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

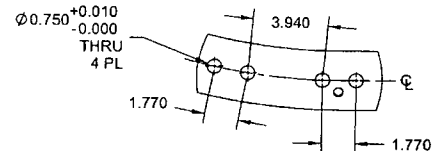


80608

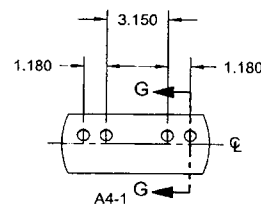
D4168-1 LH SKIDTUBE



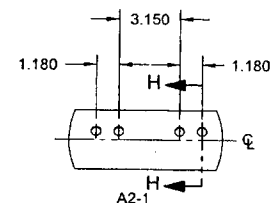
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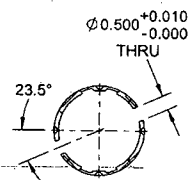
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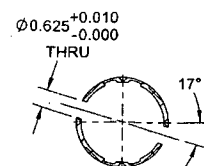
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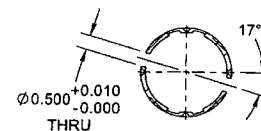
DETAIL D
SCALE 2X



SECTION E-E
SCALE 3X, 2 PL






SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

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MFG. APPR.		D4168	SHEET 4 OF 11
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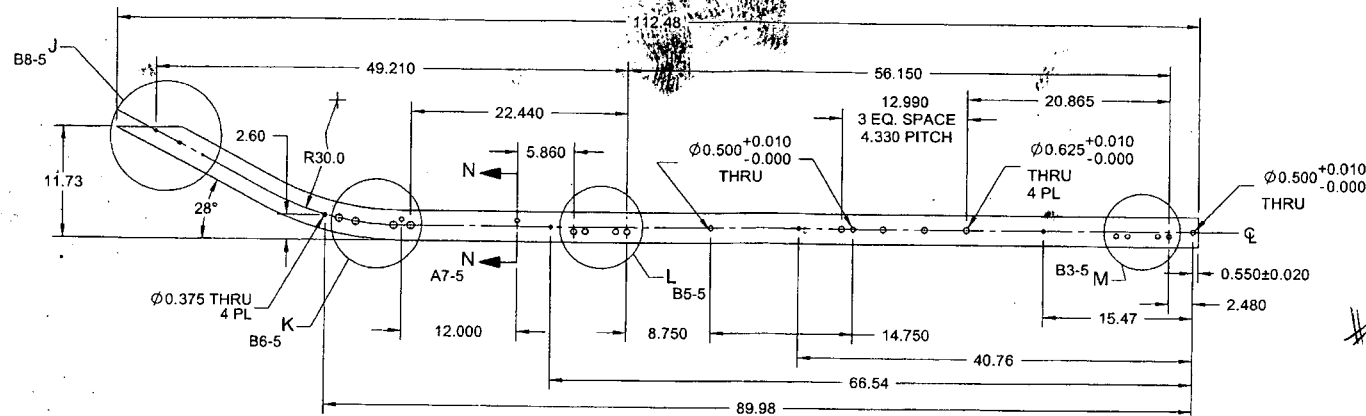
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

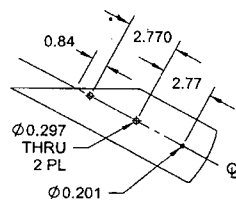
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

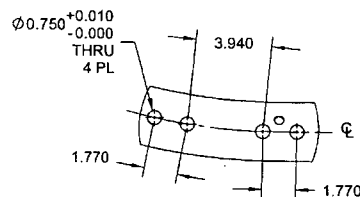
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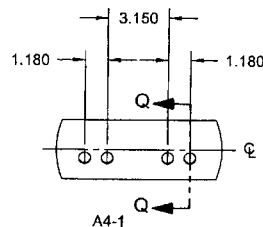
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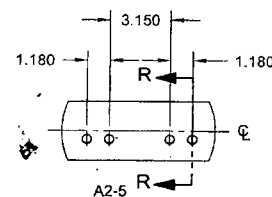
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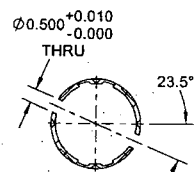
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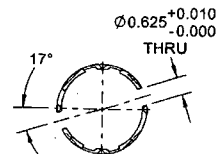
DETAIL L
SCALE 2X



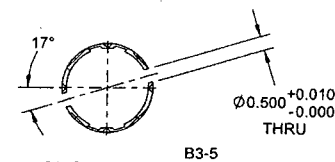
DETAIL M
SCALE 2X



SECTION N-N
SCALE 3X, 2 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

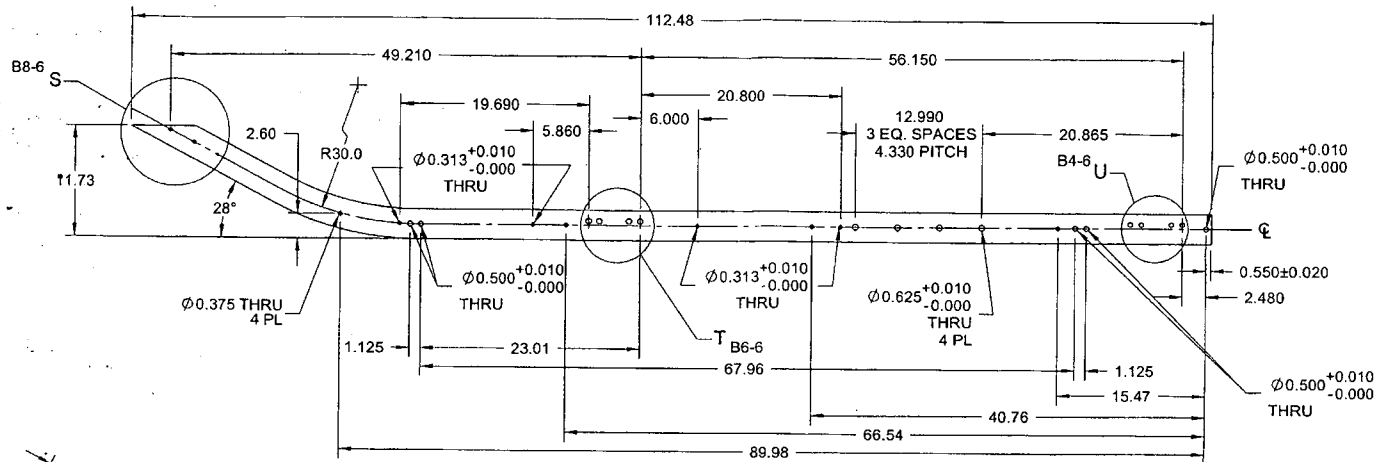
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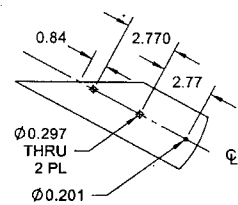
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

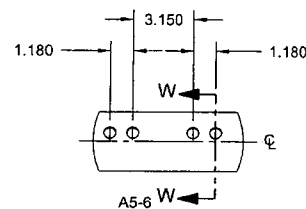
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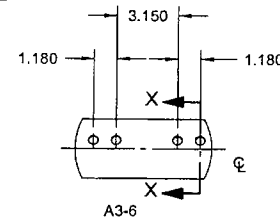
D4168-3 LH SKIDTUBE



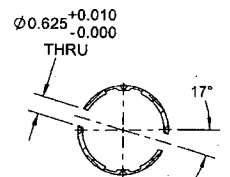
DETAIL S
SCALE 2X
D8-6



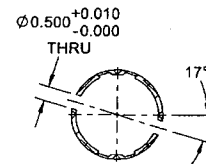
DETAIL T
SCALE 2X
C5-6



DETAIL U
SCALE 2X
D3-6



SECTION W-W
SCALE 3X, 4 PL
B6-6



SECTION X-X
SCALE 3X, 4 PL
B4-6

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

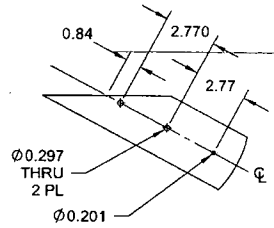
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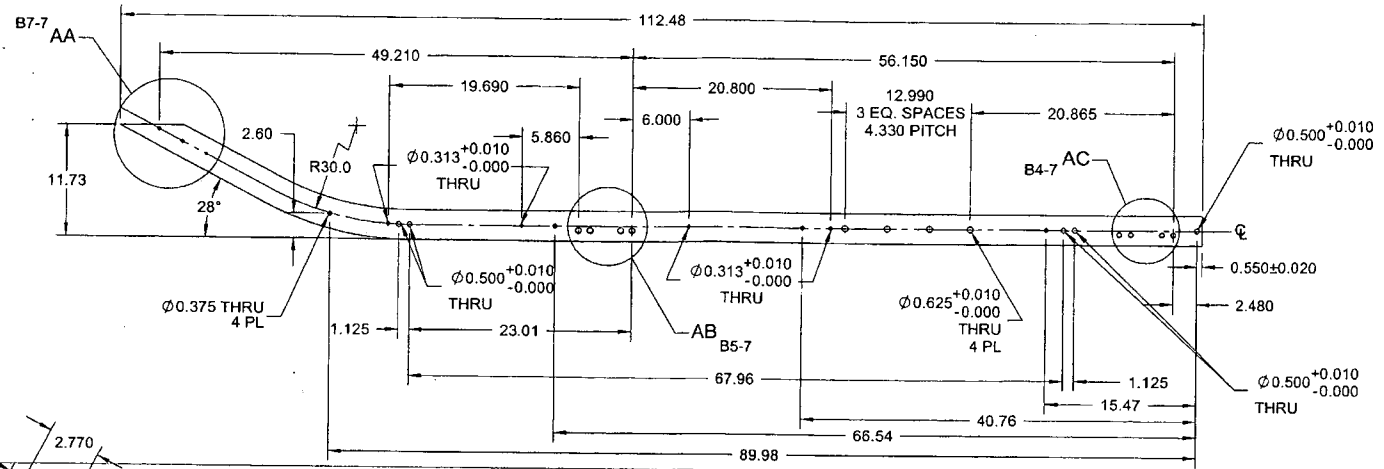
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

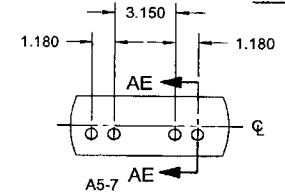
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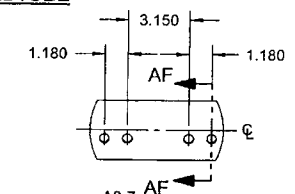
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D7-7



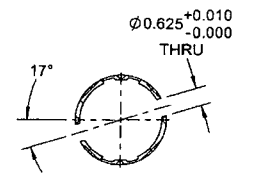
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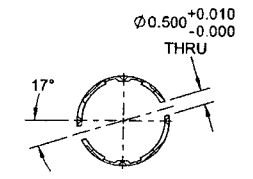
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SCALE 2X
C4-7
A5-7 AE



DETAIL AC
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D3-7
A3-7 AF







SECTION AE-AE
SCALE 3X, 4 PL
B6-7



SECTION AF-AF
SCALE 3X, 4 PL
B4-7

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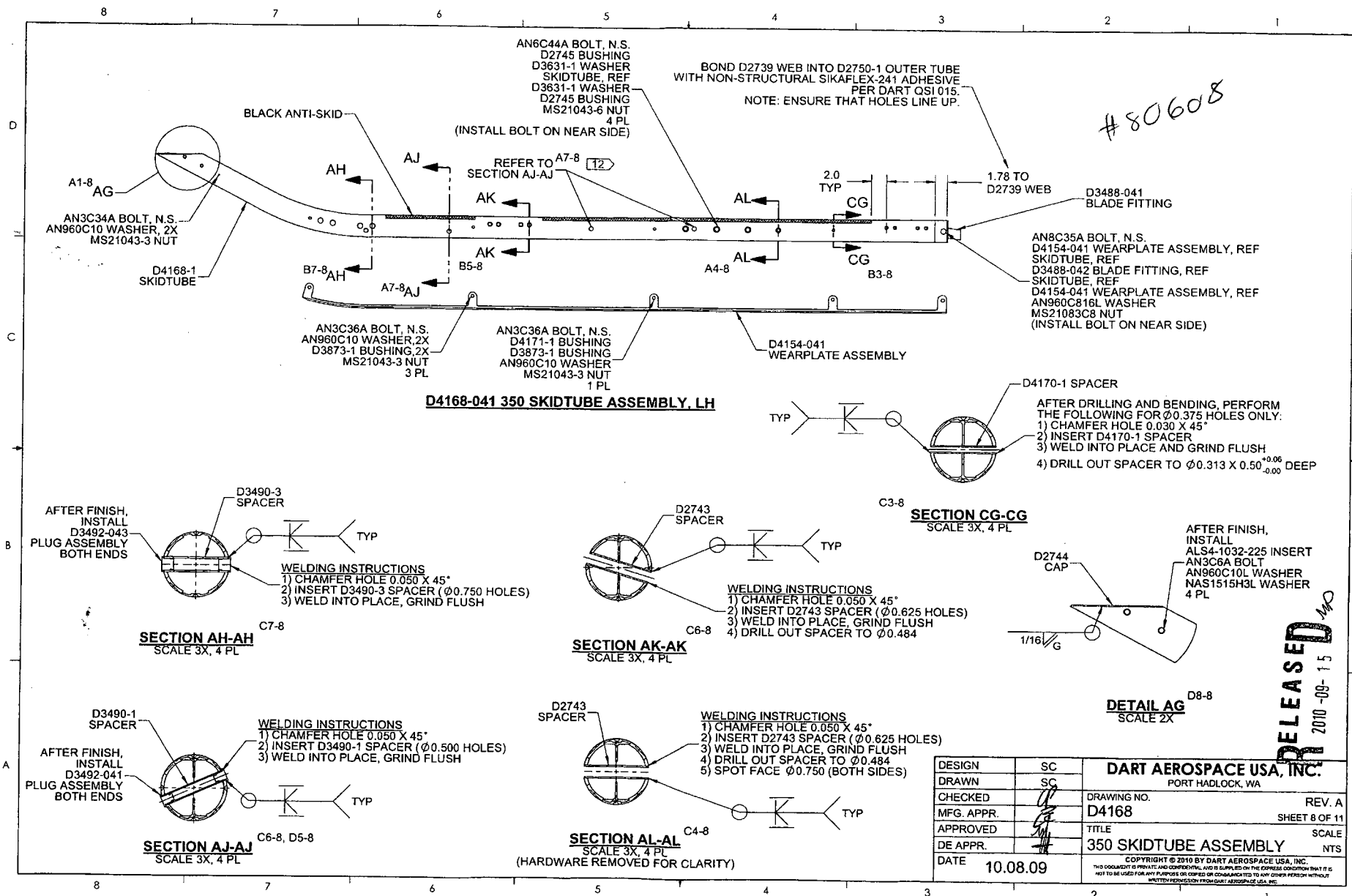
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NOTE: Date & initial all entries



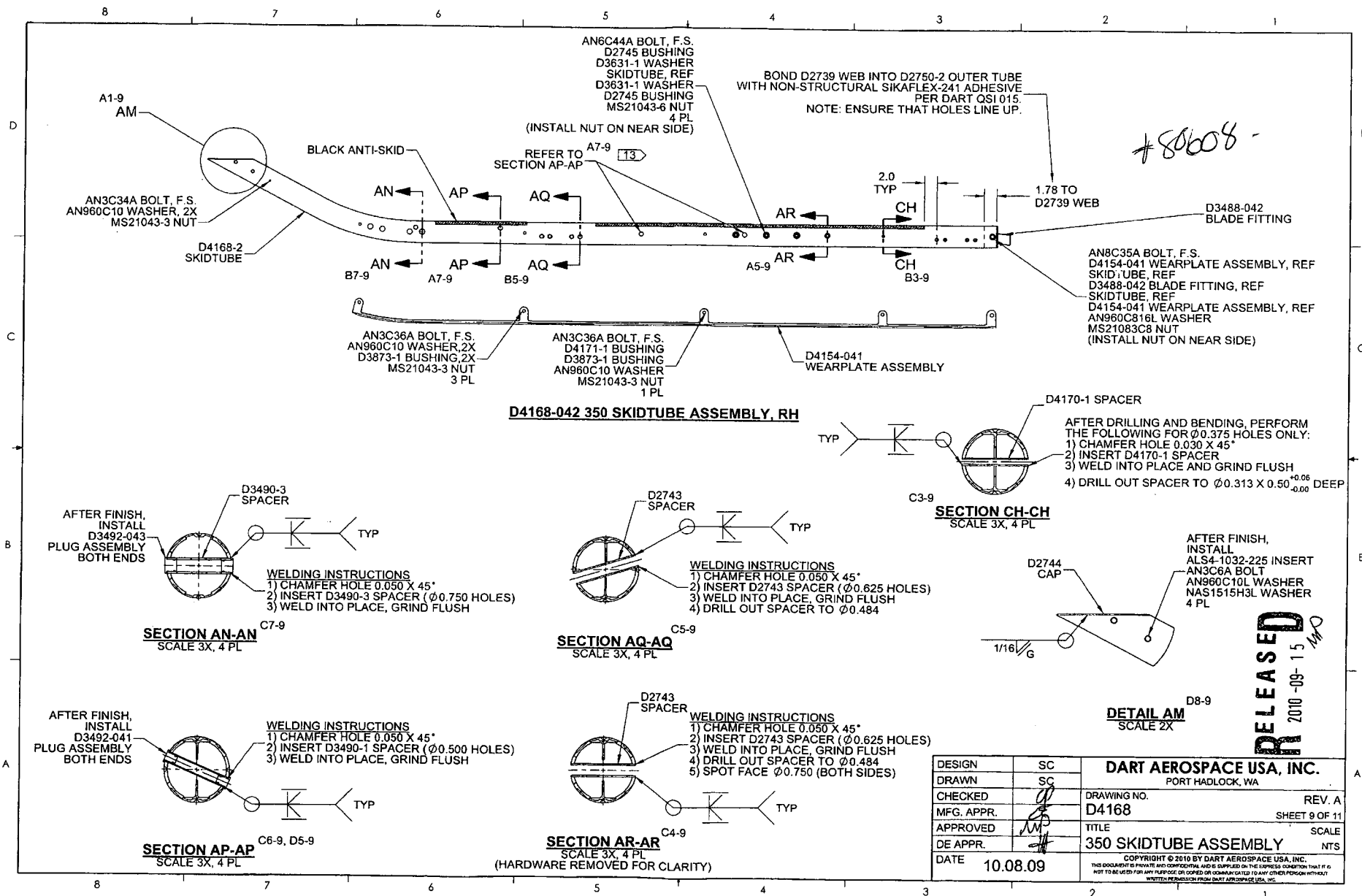
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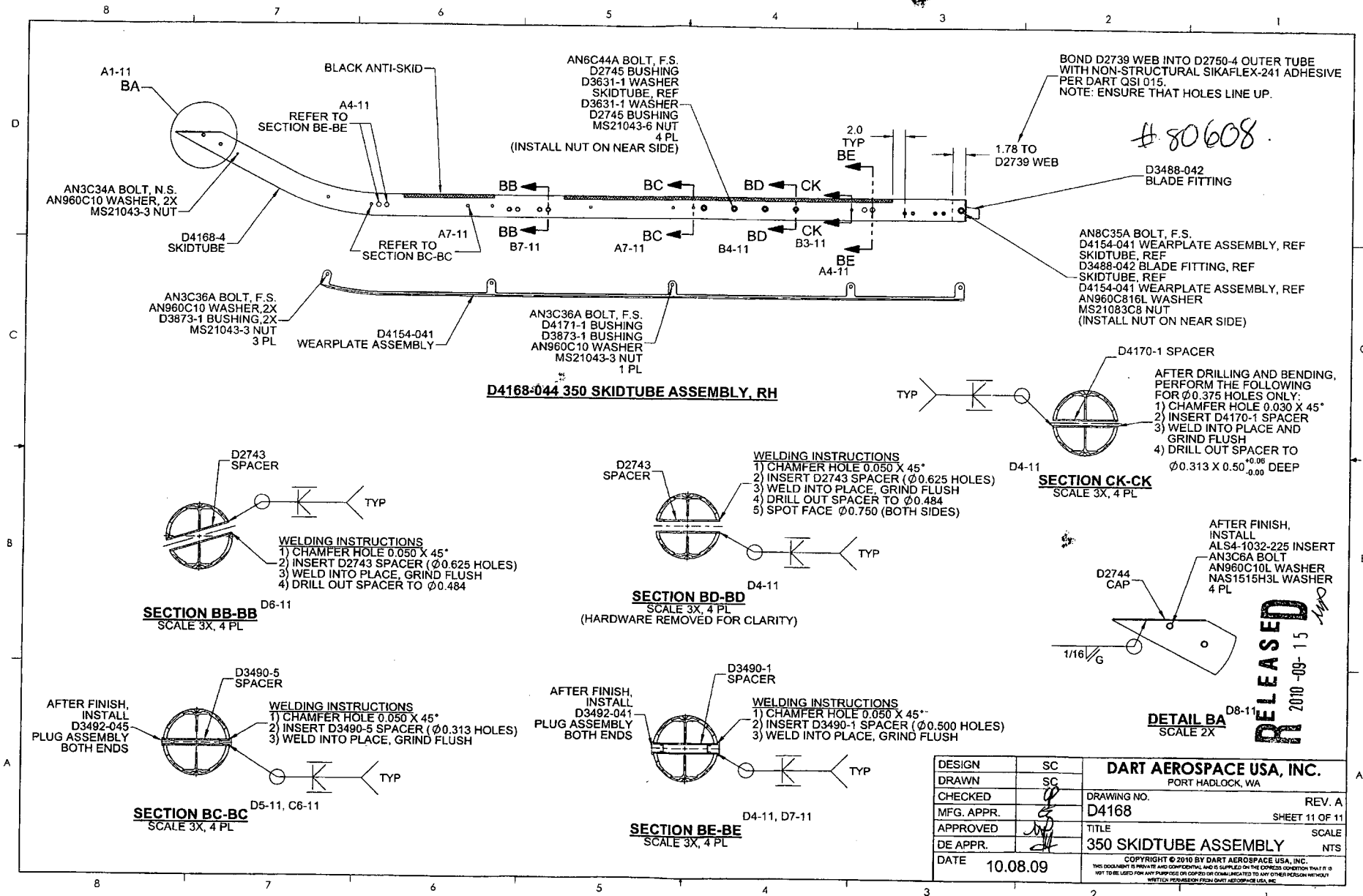
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Dart Aerospace Ltd

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

• NOTE: Date & initial all entries

NO. 282

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 78413
Part number: A350-636-011
Description: Skid tube
Welding Process: Tig[☒ Mig[]
Base material: Aluminum
Current: AC[☒ DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier David Newell Date of Test Coupon 12.02.01

Welder Barclay Elliott Date of Test Coupon 12.02.01

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Order ID 80608

Friday, February 23, 2012 2:56:39 PM

80608

Item ID: D350-636-016

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 2/24/2012 Start Qty: 1.00

Required Date: 3/14/2012 Req'd Qty: 1.00

Reference:

Accept

N9000040100

Setup Start *NS1

Stop *NS2

Cust Item ID:

Customer:

Approvals:

Process Plan:

QC:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run Start *NR1

Stop *NR2

Sequence ID/

Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stam

Draw Nbr

Revision Nbr

D3492

C

D4168

A

IIN-D350-636

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12/03/14